

ORE THE DIGGER NEWSPAPER

Volume 90, Issue 5 October 5, 2009

Faculty Spotlight



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ETM Lecture focuses on challenging the process

Tim Weilert
Content Manager

What separates innovators from those who seek the status-quo? How does one break in to the world of business? Why is rocking the boat important? These were just a handful of the topics covered during last week's Engineering and Technology Management Executive-in-Residence Lecture Series. To tackle these questions, instructor Tammy Berberick brought in Karen Padgett. Padgett is the CEO of Littleton-based Novus Biologicals, a company focused on antibodies.

At the beginning of her presentation, Padgett described what starting Novus entailed. Initially Padgett sacrificed \$10,000 to start a company that was originally run out of her own home and did not see a profit for about three years. However, by developing a model for change, she turned her company into one of the fastest growing companies in Colorado.

One of the fundamental aspects of Padgett's system of change is the idea of "outside in" help, working with collaborators to accomplish goals. "We realized pretty quickly that we needed to collaborate with scientists out in the field," said Padgett, "So anytime we were interested in a

new product or target we would try to find the 'thought leaders' and we would collaborate with them to make a new product."

Working closely with a group of mentors and peers also helped

"Anytime we were interested in a new product or target we would try to find the 'thought leaders' and we would collaborate with them to make a new product."

Padgett grow Novus. She recognized that "forming a mastermind group" was a fundamental part of healthy business growth. "Throughout your career, find a mentor or peers that you can go to and bounce ideas off of. It really opens your mind if you're around other smart people who can give you another point of view."

Balancing "regular" and "above

"Throughout your career, find a mentor or peers that you can go to and bounce ideas off of. It really opens your mind if you're around other smart people who can give you another point of view."

and beyond" work was (and still remains) an important part of maintaining a stable work environment while encouraging innovation for Novus. This was part of a larger

aspect that Padgett called "cultural change." Encouraging risks and new ideas eventually led to several key breakthroughs that have set Novus apart from other antibody companies.

Padgett gave several reasons and examples for change and growth. She stressed the importance of "continual growth" and constantly looking for new ways to expand a business. With a rapidly growing company, Padgett has dealt with changing culture and delegating responsibility; "What I work on now is

letting go."

To initiate change, Padgett suggested "rocking the boat" through behavior and alliances. She also said that rocking the boat also changed perspectives from negative to positive perceptions. Once change has been initiated, it needs to be managed. Through listening, understanding, educating, encouraging, articulating, and evaluating, people can manage change in their own organizations. Furthermore, Padgett recognized the important role of resistance and how to deal with such transitional friction.

Closing out her talk, she suggested that everyone "Read, Read, Read!"

and gave a list of several books including Thomas Friedman's *The World Is Flat*, Jim Collins's *Good To Great*, and Malcolm Gladwell's *Blink*.

Dr. Harrison explains proposed curriculum changes to ASCSM

KANEESA FELTON / OREDIGGER



Kaneesa Felton
Staff Writer

The Undergraduate Council has proposed changing the core curriculum to reflect the increasing number of "choices in degree programs" and to "diversify to accommodate other things proposed in the future," explained Associate Provost Wendy Harrison at the ASCSM meeting last Thursday.

Currently, the only departments that can depart from the core curriculum are the Chemical Engineering Department and the Chemistry and Geochemistry Department. Chemical Engineering requires students to take Bioengineering and Life Sciences (BELS101), and Chemistry allows students to take either Earth and Environmental Systems (SYGN101) or BELS101.

The proposed new core would still contain many of the current core classes (the core math courses, Chemistry I, Physics I, EPICS I, NHV, Human Systems, PA and CSM101) but would group Chemistry II, Physics II, SYGN101, and BELS101 under "Distributed Science Requirements." Students would be required to take three of these four classes, but each department would have the option to make some or all of these classes optional for their students.

Harrison explained that while there is no doubt that the Physics department would still require its students to take Physics II, it could then allow students to pick two of the other three. Chemical Engineering would most likely require Chem II, Physics II, and BELS101, and give students no option at all, but Economics and Business would most likely allow its students to pick any three of the four options.

The Undergraduate Council has also discussed the possibility of adding new courses to the Distributed Science requirements. Two ideas that have been suggested are Astronomy and Introduction

to Computer Science. Harrison stressed that these have only been suggested, not discussed.

The Undergraduate Council is still debating the Distributed Science proposal, and will vote on October 13. Harrison encouraged students to contact the council either through her or Rambert Nahm, the student representative to the Council. After the Council votes, the proposal will go to the Faculty Senate, where it will be debated and voted on before going to the Provost for final approval. Harrison said that the final decision should be made by spring.

A proposal from the Curriculum committee to change the audit system is also being discussed in the Undergraduate Council. The proposal replaces the current audit with a pass/fail option and a sit-in option. The pass/fail option would be exactly like the current audit option, Harrison explained, except that students would receive either a passing grade or a failing grade for the class. The current problem with the audit system, Harrison said, is that it is currently impossible to tell how much the student participated in the audited class. The other option, the "sit-in", would balance this by offering students the chance to sit in on a class without getting a grade, paying, or having it count towards their total hours. Harrison hopes that this will "encourage students to explore at no risk." Students would be allowed up to 6 credits of sit-in classes. Neither option would be included in GPA calculations.

The Undergraduate Council has also recommended that EPICS II be removed as a requirement for Chemistry, Economics and Business, and Math and Computer Science degrees.

There is a forum at ascsm.net where students can find answers to questions asked at the meeting, as well as post questions and thoughts of their own.



TIM WEILERT / OREDIGGER

Tammy Berberick, left, and Karen Padgett, right, discuss the importance of rocking the boat. The Engineering Technology and Management Executive-in-Residence Lecture series brought Padgett, CEO of Novus Biologicals, to campus last week.

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Scientific discoveries this week

Jake Rezac, Content Manager

Cold Springs Harbor, NY: Neuroscientists have discovered, on a molecular level, why long-term memory is improved by putting space between study periods. A specific protein, SHP-2 phosphatase, determines the time the brain needs to rest between study intervals to maximize retention of facts. Because this is done on a molecular level, scientists hope to exploit this knowledge and help those with memory disorders.

Chicago, IL: Researchers at the University of Chicago have discovered that the brain can associate colors with objects that do not possess that color. Normally, when the brain sees an object, it associates a color with it and that color continues to be associated with the object. However, if an object is 'lost,' the color of that object can be associated with an object in the area of the lost object. It is because of this aspect of the brain that a rotating object doesn't lose and regain its color.

Kulstirenden, Denmark: By studying a layer of sediment on a bluff in Denmark, geochemists have discovered that algae were able to quickly recover from the asteroid which struck Earth 65 million years ago. While dinosaurs and many other large animals were nearly killed off by the impact of the asteroid, algae were only hurt for a short amount of time.

Ethiopia: An international team of scientists have published a paper indicating a nearly-complete pre-human fossil, discovered 17 years ago, is 4.4 million years old. This makes the fossil – known as *Ardi*, for *Ardipithecus ramidus* – the oldest known fossil of a hominid. Scientists theorize that the animal walked on two legs, unlike its ape ancestors, but its brain was the same size as apes of that time-period.

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Headlines from around the world

Emily Trudell, Staff Writer

John Evander Couey, the sex offender convicted of kidnapping, raping and murdering 9 year old Jessica Lunsford in 2005, died in a Jacksonville hospital of natural causes. Couey, aged 51, was awaiting execution and had been in the hospital since August 12.

351 participants in Melbourne, Australia, at the University of Melbourne, set a world record for most number of people **dancing like robots**.

The International Olympic Committee announced that **Rio de Janeiro** will hold the 2016 Summer games. The Brazilian city beat Madrid, Spain in the third round of voting 66 to 32. This will be the first time that the Olympic games will be held in South America.

The Samoan government made plans for a mass burial ceremony on Tuesday in honor of the 164 people who have been killed in the recent **tsunami** that was triggered by a magnitude 8 earthquake.

After days of rainfall and **mudslides** in Sicily, the Italian government declared a state of emergency in the city of Messina. More than 79 people were reported to be injured, and 18 have been confirmed dead from the mudslides.

CBS producer Robert Joel "Joe" Halderman was charged with **grand larceny** for trying to extort 2 million dollars from TV host David Letterman. Halderman allegedly threatened to reveal information about Letterman's sexual relations if he

was not paid. He has been suspended from his job as producer of **48 Hours**.

The United State government is expected to **pull 4,000 troops out of Iraq** in October, said U.S. military commander Gen. Ray Odierno, who is head of operations in Iraq after saying that violence has dropped in the region.

Three small regional banks were closed this week by federal regulators, bringing the total tally of **failed banks** to 98 this year alone.

The **Peanut Corporation of America's** insurance carrier was asked to by a U.S. bankruptcy judge to set aside \$12 million for those who were harmed by the salmonella outbreak in peanut butter earlier this year. Nine deaths occurred due to the salmonella contamination.

The United States delayed some humanitarian

funding to **Somalia** for fear that it is funding a militant group. Washington is currently reviewing the situation. However, some U.S. Officials say that the flow of aid money into Somalia has not been suspended or diverted.

Scientists in Denmark announced that most of the babies born in developed nations in the next century will live to **100 years old** due to the rapid improvements in healthcare.

Elizabeth Smart, who was kidnapped from her Salt Lake City home in 2002 at the age of 14, testified that she was raped daily by her abductor, Brian David Mitchell. Smart, now 21, spent nine months in captivity, and was discovered in Sandy, Utah, only 18 miles from where she was abducted from.



Local News

Lakewood celebrated its 34th Cider Fest last Saturday and Sunday. The event memorializes the fact that the area used to contain over 40 apple orchards.

Colorado School of Mines' Marc Schiechl has been selected as the Rocky Mountain Athletic Conference Defensive Player of the Week, as announced today by the RMAC.

The construction on the West Corridor FasTracks extension has unearthed a plant fossil specimen from the early Paleocene period near 6th and Simms. None of the fossils were new species, and therefore the construction will continue as planned.

The CSM Counseling Center has released the results of their recent student health survey. The results can be viewed at http://counseling.mines.edu/survey_results.html. They will be hosting a health information table in the Student Center on Wednesday, October 7th and Thursday, October 8th from 10:30 am to 12:30 pm.

Center for Wave Phenomena brings technology, students, to struggling oil and gas industries

Jake Rezac
Content Manager

The Center for Wave Phenomena (CWP) is a self-described program for interdisciplinary research and graduate education celebrating its 25th year of existence. Established in 1984 by four Mines faculty members as an interdisciplinary program in geophysics and mathematics, the center has grown to focus on computational methods for seismic modeling, imaging, and inversion methods, educating 21 students with four full-time faculty members. The center is sponsored by 25 industry leaders in oil and gas exploration and production.

Since its inception, the CWP has produced a number of technological advancements currently used by industry and research institutions the world over. Among these is the Seismic Unix (SU) framework for seismic processing and research. Installed in more than 3300 sites across the world, SU has been released as a free, open-source product. Dr.

Roel Snieder, current director of the CWP, believes SU is an important contribution to seismic research efforts.

"The nice thing about SU is that it's really being used in research environments; Exxon Mobile research uses it. But also, let's say you are a small university in Africa, and you want to give your students hands-on experience, you can download [SU]," Snieder explained, adding, "In addition [to SU], my colleague Paul Sava works on a software package called Madagascar. It includes more numerical modeling [for seismic data]. My colleague Dave Hill works on what is called the Mines Java Toolkit."

By developing products like SU, the CWP has helped exploration industries deal with the difficulties of finding gas and petroleum in complex environments.

"Obviously when you are in petroleum and gas exploration, it's very important that you know what's down there."

just requires more capable imaging techniques, and that's one of the things we're working on."

Members of the CWP have a wide range of interests, ranging from stochastic imaging to geophysical inverse theory. Rather than making the center's efforts unfocused, this helps to make research more effective.

"I think we have a wonderful team of faculty and students. We have four faculty and we're all very different – different interests, different backgrounds – and if you have such a diverse group, it could be your weak-

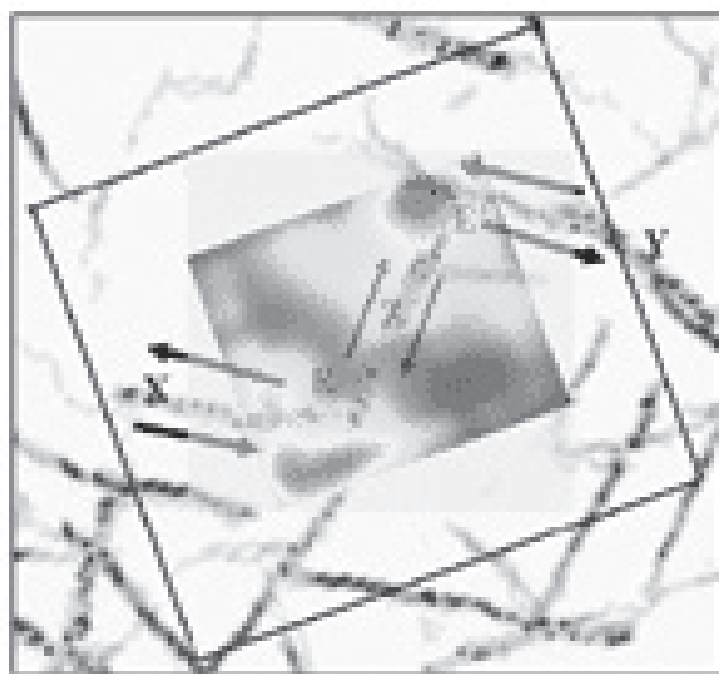
ness. But I think we've made it into our strength in the sense that we have a diverse area of research that we cover."

Sponsors appreciate this diversity, as evidenced by a recent growth in sponsorship.

"The thing I think is really impressive is that we've actually grown in the last year. I think many of these companies take

the long term view and they say, 'this is technology we're going to need anyhow, and these are students we need anyhow.'"

With its combination of interdisciplinary research and diverse interests, the CWP is in its 25th year, continuing to lead the way for an industry which is suffering some of the most unique and difficult challenges in its history.



COURTESY CWP

CSM Mine Rescue Team prepares to save lives

Spencer Nelson
Content Manager

Clubs have purposes. Some teach sports, some talk about politics, some talk about religion. Perhaps one of the most practical clubs is one that regularly practices saving lives. If a mine collapses somewhere around Golden, some of the first people called out will be the CSM Mine Rescue Team. Setting up communications, being security guards, fixing gear, and many other tasks would be distributed to this team in their efforts to save trapped miners.

"It's kind of like a volunteer firefighter service, except on a student level," explained Collin Smith, the Captain of the Mine Rescue Team. Training both in theory and application, the team meets twice a week. Tuesdays are to study the manual and Saturdays are for actual practice in the Edgar Mine. Education is the key, as Smith emphasized, "The point is to go beyond the normal education to get some industry experience as well as learn the ins and outs of the mine rescue situation." The constant practice also "keeps them sharp for real life situations," said Smith.

A lot of the training is for the upcoming competition at our rival school, Missouri University of Science and Technology. "It's where teams show off what they're made of," said Smith. Since the govern-

ment requires professional teams to compete in at least two competitions a year, the attendance is always substantial and gives the students a chance to see what real teams are like. "We like to hang out with the industry guys since we compete alongside them in contests," said Smith. The contests are composed of two parts: a test on the manual and a field test where they run a simulated problem. The team is quite excited for the competition, especially since it is the only underground mine rescue competition.

Although no one wants to think about the need for rescue operations, Smith acknowledges, "It's still a prevalent part of the industry as a whole... If we go on to our careers as engineers, it's something... we will have to deal with." The 10 member team always remembers that what they are doing matters. "We're here to have some fun, naturally," said Smith, but that does not detract from the actual value of this club. Although only 7 people are needed for an official college team, the CSM Mine Rescue Team always accepts more members since there can never be too many people in a rescue situation. If anyone would like to become involved in a club that saves lives, contact Collin Smith (cosmith@mines.edu) or the Mining Department for more information on the CSM Mine Rescue Team.

Mines gets graphics-processing super computer

Ian Littman
Assistant Business Manager,
Web Content

The CTLM basement houses Ra, Mines's 268-node, twelve-rack, Dell-powered supercomputer, devoted to energy research. While this machine's 17-teraflop sustained performance is high, a new system, just 1.75 inches tall on its own, can accelerate a single server to the performance of two racks of normal equipment. The system is an nVidia Tesla S1070, a \$7500 machine that connects to a standard server and brings a whopping 960 processing cores to bear on problems that would normally require a system of much greater size.

The catch: 960 1.44 gigahertz processors are harder to code for than, for example, the eight 2.66 GHz cores found on the average Ra node. "Parallelization is difficult," says Tim Kaiser, Director of Research and High Performance Computing Support. Additionally, "[t]he memory hierarchy is such that you really need to have stuff in what they call shared memory, and shared memory is fairly small. So you need to think about how to write your algorithms." The nVidia GPGPUs (General Purpose GPUs) in the Tesla node have memory that is segregated into portions with performance that differs by two orders of magnitude, so programmers must be aware of how they work with data on what are effectively souped-up, high-memory graphics cards.

That said, graphics processors like the Tesla (and consumer-grade cards found in most new comput-

ers) are becoming increasingly easy to program for, thanks to standardized high-level languages like nVidia's CUDA (Compute Unified Device Architecture) and the cross-platform OpenCL. All these, plus software compiler enhancements to detect and exploit parallelism in everyday code, serve to make the process of unlocking parallel processing power on such machines a lot easier. "We will shortly have available on this machine the Portland Group compilers, which should enable you to do some...directive based parallelism, which is similar to OpenMP," says Kaiser of the development environment Mines is setting up on its Tesla-connected server. "[E]ssentially you tell the compiler that you think that the next loop can be parallelized, and you leave it up to the compiler to do it for you. It's semi-automatic parallelism."

What can students and researchers do with this sort of power, properly harnessed? Quite a lot, actually. From fluid dynamics to signal processing to seismic imaging, GPU-powered compute nodes like the Tesla system can speed up processing by as much as 100x, if not more. For the technically minded, the current Tesla system pumps out 4.14 teraflops of single-precision floating point performance while using a mere 800W of wall power, barely more than the power consumption of an 85-gigaflop standard server. Even on slower double-precision processing, a Tesla system is more powerful than the equivalent-power Intel system. Fortunately for Mines however, the vast majority of the Tesla's workload will be single-precision "[b]ecause a lot of data is taken that is eight-bit [from] analog

to digital converters," explains Kaiser. "There are very few 64-bit analog-to-digital converters. So your starting data is...in general single precision."

The greatest thing about having a GPU powerhouse available on the Mines campus is that it's available for student consumption. Between two high-level MCS courses being offered this semester, about twenty-five students are already going to have use of the system. "[W]e want people to...get the experience...but we also want to find out if people can make good use of this machine, to justify buying more of them," says Kaiser of the system, dubbed cuda1 in reflection of its primary programming language. "If nobody uses it there's no point in buying more, but if...everybody wants to use it, I'll go back and I'll ask for more of them." More information can be found about the nVidia Tesla system at <http://geco.mines.edu/tesla>.

The field of graphics card computing for massively parallel power is advancing quickly, with AMD's release of their two-teraflop Radeon 5870 card happening only a couple of weeks ago. With a move toward a standardized language across graphics processor brands and a build-out-not-up mentality where parallelization takes over performance increases rather than ridiculously high processor clock speeds, the sky is the limit for high performance, high-efficiency computing. Even better: your computer's graphics card might even be such a powerhouse, if not now then in a few month's time. One thing's for certain: graphics cards aren't just for gaming anymore.



Review: 5th generation iPod nano

Ian Littman
Tech Break Columnist

I had the privilege of borrowing the newest member of the iPod nano line from the CSM Bookstore for a week to see what makes the product a cut above the previous version of the portable media player. The verdict: tons of features make this the ultimate in take-it-with-you media players, though depending on your preferences there are better players out there, from Apple or otherwise.

The most noticeable feature of the new iPod nano is the build quality. The media player, with its high-resolution screen, has a sturdy build. Although the device is built well, it's small size causes the one design flaw of the iPod: a video camera on the corner, which an ill-placed thumb could easily cover.

The features of the fifth-generation nano are greater in number than were those of the fourth-gen player. Gone is the complaint that Apple products are bland compared with the competition. The new iPod includes a basic pedometer (with Nike+iPod compatibility for extended stats), an FM radio tuner (with RDS-based track tagging if you hear a song you like), a voice recorder (limited to two hours per recording but

still quite useful), and the hallmark VGA video camera. The new features included with the nano aren't going to take the place of a real video camera or an HD radio, but they do bring the player to parity with such products as Pure Digital's FlipVideo.

The new nano has one drawback due to all of these features - decreased battery life. While music playback to earbuds may yield a full 24 hours as Apple's advertisement suggests, use of additional functions will shorten battery life to that of Apple's video rating, five hours. The problem here is there is a lot of additional functionality available.

With that caveat, however, the iPod nano fifth generation is a solid media player for people who want to carry around something around the size of an iPod nano. The device doesn't connect to the internet (that's the iPod touch's job), doesn't hold 160GB of music (that's the iPod classic), isn't super-tiny (that's the shuffle) and isn't compatible with subscription music services (Microsoft's Zune HD is). However the functions contained in the iPod nano are well-done, and the price point (\$149 for 8GB, \$179 for 16GB online, at an Apple store or at the Mines bookstore) is just about right.

Tons of features make this the ultimate in take-it-with-you media players.

The new nano has one drawback due to all of these features - decreased battery life.

an Apple store or at the Mines bookstore) is just about right.

Mines professor is a true Renaissance woman

Neelha Mudigonda
Content Manager

Dr. Norrgran teaches within the BELS curriculum. Upon obtaining her B.S. in physics from the University of Minnesota at Minneapolis, she researched regenerating limbs and brain enzymes for several years. She then proceeded to go to medical school at the University of Nevada at Reno while researching mechanical stress designs for cervical wiring techniques. She did her surgical internship and neurosurgical residency at the University of Cincinnati before working in a private practice as a neurosurgeon in Denver for several years. Dr. Norrgran currently works in conjunction with Dr. Carr in researching bacterial growth using spectrophotometric techniques. Besides working at Mines, Dr. Norrgran is working on obtaining her Ph.D. in Astrophysics and researches the recovery and restoration of dinosaur fossils.

What were your favorite classes while you were a student?

I enjoyed atmospheric physics and biochemical research as an undergrad.

What was your profession before you started teaching, and did you enjoy it?

I have done many jobs before coming to Mines. I was an accountant, the telescope operator and lecturer for a planetarium, and most recently, I was a neurosurgeon for 15 years in the Denver area. I enjoyed working at the planetarium, and of course, being a surgeon.

What are the pros and cons about teaching?

I enjoy most of the aspects of teaching at Mines, especially the interaction with the students.

Why did you want to teach?

I enjoy learning and want to pass that on to students.

What are your goals in life?

I am a Renaissance person; my goal in life is to continue to learn.

What's your favorite book?

I would have to say *Man Plus* by Frederick Pohl and *Ender's Game* by Orson Scott Card. I also read police procedurals, serial killer mysteries, and have recently gotten into the Manga books like

Hellsing and *Black Jack*.

What do you like to do besides school?

I am with a company that, after a fossil is found, we help to get the animals from the dig site, prepped, mounted, and auctioned off. I do some of the cleaning and mounting work on the dinosaurs. One of the dinosaurs I worked on is a mummified hadrosaur with 90% of the skin intact. It is in a museum in Texas at the moment.

What's the craziest thing you've done?

I got married in New Orleans on Halloween ten years ago.

Do you have any pets? If so, what kind, and what are their names?

Three cats [Whonu, Uno, and Whatnext], a Jack Russel named Itchy, a Schipperke named T. Rex, a Rhodesian Ridgeback named Elvis, a Standard Poodle puppy named Fiona, a dozen koi fish, and of course, the snails from bio 1 lab. I am a master falconer for the state of Colorado, although I don't have a bird at this time.

The word on the street is that your house looks like a museum. Care to explain?

We have three full-mount dinosaurs, many full-mount animals, and a lot of smaller fossils and artifacts. The dining room contains a dimetrodon, the living room has a camptosaurus, and the basement has a baleen whale. As for furniture, we have a kitchen table and a couch, the rest is museum-quality displays. We also have hundreds of rock and roll memorabilia, so the basement looks like a Hard Rock Café.

How did you get into the dinosaur business? Are you a paleontologist?

I am a paleontologist only by avocation. I have been studying dinosaurs since I was a child.

What courses do you teach? Are you planning on teaching any new ones in the future?

I teach biology and biophysics. I would like to teach other courses in the future

What do you like to do in your free time?

I am getting my doctorate in astrophysics. My spare time is filled with the ammonia mapping of the giant molecular cloud NGC1333 at this time. I also raise orchids and violets.

Can you do any cool tricks?

I have hypnotized over a thousand people.

What do you do during the holidays?

I have become a homebody; I don't tend to travel much anymore. For Thanksgiving, we deep fry a turkey.

In your opinion, are you a nerd?

When I was in school, there was no such thing as a nerd. I got my degree in physics using a slide rule. Oh, wait, that means I am a nerd.

Who's your favorite scientist, and why?

Sir Fred Hoyle, the British astronomer. He has some great insights into the origins of life and diseases that might come to Earth from space.

Any other information you'd like to share with the readers out there?

I do have a research project on an early detection device for contaminated water. I like to have students help with it.



NEELHA MUDIGONDA / OREDIGGER

Thinking 'I hate studying' won't get you good grades

Dr Jason A Davies PhD
Guest Columnist

Many students have an unhealthy attitude towards study (in fact many students don't have a concrete idea of exactly what is meant by study), but think about this: your success, in anything that you attempt in life, is largely due to your attitude. A good attitude leads to good results, whereas a poor attitude leads to poor results. So why not develop a great attitude and get great results?

With the right attitude towards your studies, your confidence will grow, you'll find your work easier, you'll get your work done in less

time, your marks will improve and you'll enjoy your work more.

So how do you improve your attitude? Well, attitudes are nothing more than habits of thought and bad habits can be replaced with good ones.

If you have the habit of saying, "I hate studying," or "I'm bad at studying," or "I'm a poor student," then over time you will convince yourself that this is true and it becomes part of how you define yourself.

But remember, attitudes are simply habits of thought. So next time you find yourself thinking, "I hate studying," or "I'm bad at studying," or "I'm a poor student," then stop yourself and think in-

stead, "I'm learning to like studying," and "I'm getting better at studying," and "I'm becoming a good student." Use this technique every day.

Simply by developing a better attitude towards your studies you'll be amazed by how your confidence will grow and how the quality of your work will improve.

At college, your success will depend largely upon your attitude, your interest, your enthusiasm and your self-belief. Get these things right and you're over half way there!

This is an excerpt from '6 Days To Better Grades - Powerful Study Advice For All College Students'. Available now from Amazon.com



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Geek of the Week

Danial Haughey
Staff Writer

...Seth Daugherty, Junior: Computer Science

Do you consider yourself a geek? No. Ummm, well... Well see, I would probably fit the nerd classification more, geeky to me is... I don't really know the definitions but it seems like nerd fits better with computer science and that's what I am, computer science.

How did you come to be at Mines? I remember back in seventh grade math, pre-algebra, my teacher was telling us about how his kids went to Mines and he was talking about how it was a good school of you wanted to do anything related to math or science or engineering and I always thought that would be cool. And that was the first real exposure I had to Mines and I just thought it was cool.

What are your hobbies? The only free time I have, outside of work and school, is spent either doing homework or with my girlfriend. Other than that, I am really into linguistics.

What is or has been your favorite class at Mines? My favorite class was Algebraic Structures, I don't really have a reason why, but the material was interesting. (Irene Polycarpou was a pretty good teacher). Most people that take it probably wouldn't say it was a good class [laughing].

What is your favorite piece of technology? I would have to take the conventional approach and say my computer. Because it can do so much, and I spend so much time on it that its like an associate or friend.

What is your favorite movie? My favorite movies seem to change from month to month, but I watched *V for Vendetta* last weekend and it was really good, so it's my current top one.

What clubs and or activities are you involved in? I play IM sports - basketball, floor hockey,

and, currently, Ultimate Frisbee.

So you would say Mac over Windows? Definitely Mac over Windows but I would go with Linux as my favorite.

If you were going to create a class of CSM what would that class be?

Social etiquette 101 or understanding non-engineers or something like that. It would have to be a LAIS class because it is teaching you to value the opinions of non-engineers. I think that we don't appreciate other perspectives from non-engineers.

What you love/hate about Mines? I like

the starting salary. No, but really I like the fact that it is a small school. And you have a chance to get to know your teachers and know everyone in your major. And the thing that I don't like is that everyone hates LAIS classes. I think that they should give them more of a chance before they say they don't care about it.

Do you play any video games? I go on these sprees or I guess they're more like addictions.

Binge video gaming? Yeah, binge video gaming, where I'll play a video game for 3 months straight and I'll play it to the point where I have done everything I possibly can without being bored. And then I will just be so sick of them I will just stop playing all video games for like six months. Then I will do it again, then six months off. Repeat.

Are you currently on a binge? No, I don't really have time. Most

of my video games are RPGs.

Like what? Well my last one was Fall-out 3.

What is your favorite word? Logorrhea. It's a combination of log and the end of diarrhea but it means excessive and often incoherent talkativeness or



COURTESY SETH DAUGHERTY

wordiness.

Read any web comics? Xkcd and Dinosaur Comics.

Geekiest thing you have ever done? For my CSCI261 C++ project, I made program that took a picture and converted it into this big ascii art text file. So now I have bunch random ascii art pictures stored on my computer.

Favorite Mines experience? My favorite Mines experience was the M-climb last year. I was pretty disappointed when they banned water balloons.

What do you plan to do once you leave Mines? I plan on working for two years while my girlfriend finishes school. Then I am going to study computational linguistics at a reputable school.

Do you have a school in mind? Well the place to be is Stanford or MIT is the other big one. So those are the two I hope to get into.

Phi Beta Delta broadens horizons

Sophie Hancock
Staff Writer

As incoming Phi Beta Delta President for 2009-10, it is my pleasure to welcome you to, or back to, Mines. PBD is an international honor society, intended to help 'internationalize' campuses, and to encourage and celebrate academic excellence. Phi Beta Delta invites both international students studying in the USA and American students who have completed study abroad programs, earning a minimum 3.0 GPA in both environments.

Phi Beta Delta lives in three worlds - past, present, and future. Our past is both long and short. As a Greek honor society we go back to the eighteenth century, and indeed even further

Phi Beta Delta invites both international students studying in the USA and American students who have completed study abroad programs

other staff. We hold initiations each semester and will be looking to make inductions in both Fall 2009 and Spring 2010. In this busy age, most organizations to which we belong do not have a formal initiation. In fact, speaking frankly, a lot of such memberships are more like subscriptions, with potentially impersonal annual meetings but few personal opportunities.

As an honor society, Phi Beta Delta is different from many other campus clubs. The ceremony of joining or of initiation is important. Candidates have the symbolism of the society explained during initiation, conveying the idea that with honor comes responsibility. In Phi Beta Delta, if invited for initiation, one is singled out amongst peers not only for having shown an above average interest in internationalism but also for willingness to work for international understanding in the future.

Through Phi Beta Delta, we have an opportunity to recognize some of the individuals who make our CSM community so rich. If reading this article resonates with you, and you would like to be considered to join PBD look out for our events this semester, or email me at shancock@mines.edu. We are also looking to appoint committee members to help expand PBD at Mines. Alternatively, get in touch with the International Programs office in Thomas Hall, specifically Dr. Kay Godel-Gengenbach at kgengen@mines.edu and (303) 384-2120.

The future world for PBD depends on each one of us. Where can we propose to take Phi Beta Delta in the next year at Mines? The future world of Phi Beta Delta is what we make of it. PBD is for campus scholars, young and old, for undergraduates, graduates, faculty and

Timothy Marquez donates a new face to the Petroleum Department

Erin Stephens
Staff Writer

Though not yet built, Marquez Hall promises to change the Petroleum Department for the better. The \$25 million effort to build Marquez Hall was put in motion by a single alum, Timothy Marquez. According to Molly Williams, Executive Vice President for University Advancement, "Mr. Marquez is pretty close with Dr. Craig Van Kirk, the former head of the department. It was a conversation between the two of them, with Craig sort of dreaming about the opportunity to build a new building, and Tim saying, 'Well, let's see if we [can] make that happen.'"

The gift which started the project was \$10 million designated to the Petroleum Department from both Marquez and his wife through their family's foundation. Through fundraising and other support, the school has raised the full \$25 million needed to complete the building. Williams said, "The hope

is that we'll break ground next spring or summer, and it will probably be a year to a year and half to build the building." With this projected timeline, the current freshman and sophomores on the five year plan should be around long enough to see the completion of Marquez Hall.

Timothy Marquez is a graduate from the Petroleum Department and has been extremely successful with his own company, Venoco. His success in the oil industry has allowed him to give back to the community, not only at Mines, but also with the Denver Scholarship Foundation. Marquez helped establish this scholarship with a gift of \$50 million.

Marquez graduated in 1980, which makes him extremely young for a gift of this magnitude. Most alumni wait until they have mostly completed their career before donating millions of dollars to their alma mater. Marquez is unique among alumni, because "as soon as he started earning more than he needed, he started to return to

the community in many ways," according to Williams.

Marquez Hall, as an addition to the campus, will give the Petroleum Department a top-notch new space. Presently, petroleum students are mashed together in Alderson Hall with Chemical Engineering. The introduction of a new petroleum building will not only benefit the Petroleum Department, but "it will have a nice impact on Chemical Engineering... They'll be able to spread their wings," said

Williams.

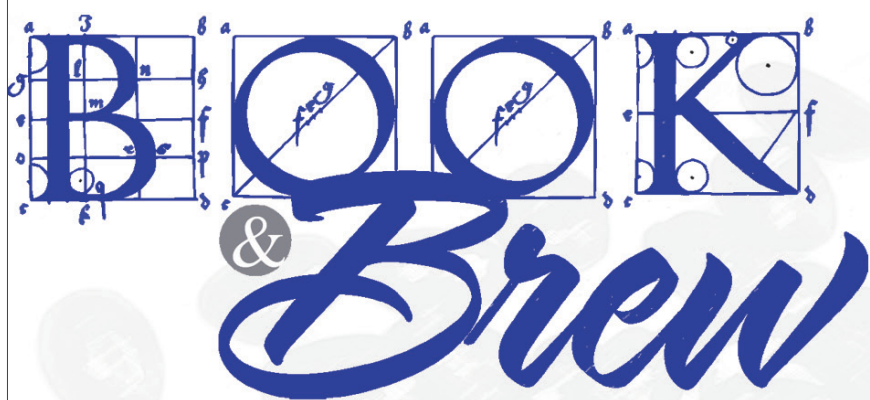
When the plan for a new building was first proposed, the Petroleum Department was expecting a class of 400 students; they now have over 500. Not only will the building grant enough space to the students, but will also open doors for new technologies in the field. Williams stated that, "One of the dreams of the building is to have a simulation lab." The ability to have simulations on campus would be an enormous help to

keeping Mines at the forefront of the engineering world.

On a long term scale, Marquez Hall will be part of a makeover of the area between CTLM and Alderson back towards 19th street. "It will give a new face to the campus; the whole mall... will be a new entrance to the campus," according to Williams. Starting with Marquez Hall, students can look forward to grand changes to the Mines campus in the coming years.



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thurs. 10/8 @5pm

-field goal competition
thurs. 10/8 @5pm

<http://recsports.mines.edu>

Manchester orchestrates a chilling performance

Tim Weilert
Content Manager

It was a hot night in mid-May when hundreds of eager fans crammed into a venue in LoDo to watch Manchester Orchestra bring down the house. A few months later and this Atlanta-based group is on its way back to Denver (opening for Brand New this Thursday at the Fillmore).

Their newest record, *Mean Everything To Nothing*, was released earlier this year and attempts to give listeners a more accurate representation of how the group sounds live. Following their 2006 breakthrough *I'm Like A Virgin Losing A Child*, Manchester Orchestra began garnering more serious media coverage and received a notable amount of airplay from the now-defunct local radio station Indie 101.5 (they've actually moved to an online format at indie303.com, but closed down terrestrial radio broadcasting a couple months ago).

From the first track this record pulls out all the stops. Lead singer Andy Hull's delivery is im-

passioned and heartfelt, a good medium for the lyrical content. *Mean Everything* picks up where *Virgin* left off: a young man on a spiritual journey of sorts continues to patch his life together. As the protagonist of the story deals with the past and the present, he tries to decide what the next step should be. The lead single "I've Got Friends" displays this story with a catchy chorus and hard-hitting guitars.

Due to the highly contemplative nature of the songs, this should not be considered a "feel-good" record. Grappling with desperation, pride, and humanity are, and have been, core parts of Hull's songwriting style. The record calms down during "I Can Feel A Hot One," then picks right back up and ends with "The River," an anthem of redemption.

Overall this album does manage to pack the energy of a live Manchester Orchestra show into a portable listening experience; however, repeat listening doesn't always result in the same goosebumps, excitement, and emotional response that come from actually seeing this group perform live.

Overall this album does manage to pack the energy of a live Manchester Orchestra show into a portable listening experience.



TIM WEILERT / OREDIGGER

Boulder brews brilliant British beer

Kevin Lock
Staff Writer

Boulder Beer Company has released a new beer in its Looking Glass Series, Cold Hop. Cold Hop has a true amber color with large amounts of carbonation and noticeably large CO2 bubbles. A hoppy scent will greet your nostrils followed by a lively tingle. With a very smooth, suppressed hop flavor, this is one of the most refreshing yet flavorful beers I have ever had the pleasure of drinking. With a crisp clean hoppy aftertaste you will be refreshed and happy with your choice.

By using both kettle and dry hopping techniques during brewing, Boulder Beer Company was able to achieve a unique blend of smooth fruitiness and hops. Hops from New Zealand and the Czech Republic join a British brewing style to create an intriguing blend of flavors.

The Looking Glass Series, which has featured numerous, limited-time specialty beers, started in 2001 fol-

lowing the conception of Hazed and Infused, an experimental unfiltered Dry Hop Ale which became very popular. Personally, Hazed and Infused is one of my favorite beers, with a smooth hoppy flavor that is hard to beat. However, as the series progressed and Cold Hop was created, I feel as though there may be a new top brew. Cold Hop is just slightly smoother and more crisp. At \$8.99 for a six pack and 6.8% alcohol by volume, this beer is definitely worth the investment. These beers are on limited release and Cold Hop is only available through October.

Keep your eyes peeled for more great beer from Boulder Beer Company as they continue the Looking Glass Series and celebrate their thirtieth anniversary. Started by a few professors from CU who longed for more British style ales, Boulder Beer Company began in 1979 as Colorado's first microbrewery. As they continue to make great beer, I look forward to many more years of great beers with British brewing roots.



KEVIN LOCK / OREDIGGER



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DCA assists in long term investments

Nick Libertini
Staff Writer

The primary goal of most investors is to buy low and sell high. Ironically, human emotions lure many people into selling low and buying high. Certainly, a select group of very astute investors manage to beat the market, but most of us would be content with putting our investments on autopilot, while still hauling in a reasonable return.

So how do you avoid getting swallowed up in the “buy high, sell low” paradox? Implementing some form of time diversification in your portfolio is a good start. Time diversification speaks to spreading out your market exposure over time rather than investing in lump sums. Dollar cost averaging (DCA) is a very simple form of time diversification that can help any investor minimize risk and maximize returns.

Stock market returns over the last hundred years have averaged out to roughly 9.5% annually. DCA is a great way of taking advantage of this long term rate of return (ROR) without having to time the market. With DCA, you predefine your investment goals and then systematically invest money regardless of the stock market's price level. For example, assume you are 22 years old and you want to have \$2 million when you are 65. Using the average market return and your investment goal, you can calculate the monthly dollar amount you need to systematically invest in the market.

For this example the monthly investment figure is \$275.39. To time diversify your investments, simply buy \$275.39 worth of a broad market or index following fund every month. If the fund is trading at \$10 a share this month, buy 27.5 shares. If the fund appreciates to \$50 a share next month, only purchase 5.5 shares for that month. Because you are investing for the

long term, your ROR will average out to the market's ROR. Furthermore, by dollar cost averaging your investments, you will not feel compelled to react to the knee-jerk movements of the market, leading to buying high and selling low.

Unfortunately, there are also some drawbacks to DCA. First, your investments will grow at roughly the market ROR. This is not a problem if the market continues to average 9.5% annually for the next hundred years; however, past performance is not indicative of future returns. DCA will not help you overcome substandard investment returns. Additionally, if you invest a constant amount with DCA, your contributions will lose some of their buying power over time. Because inflation and market growth eat away at your money's purchasing power, it is wise to continuously increase the amount of your systematic contributions by 4-5% every year to keep pace with market growth. Finally, DCA does not provide any method for selling shares when prices increase substantially and there is significant deviation from the market mean. Repositioning some of your investments after a sizable gain in the market is a very effective way to mitigate some of your investment risk, yet DCA provides no formula for doing this.

Nevertheless, DCA is an adequate tool for investors who are not in the business of timing the market. As long as you are investing for the long term and you maintain the diversity of your investments and the purchasing power of your contributions, DCA is a viable way of attaining the average ROR of the market. Time diversifying with dollar cost averaging will also shield you from the market whiplash of buying high and selling low. Even still, it is always a good idea to keep one eye on the market, lest you miss out on an outstanding speculative opportunity.

Into the Wild is unexpectedly wise

Zachary Sorenson
Staff Writer

The movie rendition of *Into the Wild*, based on Jon Krakauer's book of the same name, was at times a stirring movie which didn't quite live up to its potential.

The movie portrays Christopher McCandless (Emile Hirsch), a recent college graduate who attempts to move to and live in the Alaskan wilderness. Along the way, he meets interesting characters while occasional flashbacks develop McCandless's personality.

McCandless's love for classic books and penchant for quoting Thoreau allows for interesting standpoints on life to be presented. These devices give McCandless the appearance of being wise beyond his years. This wisdom, in turn, helps McCandless to inspire the people he meets, who become happier people.

Into the Wild did a lot of things right. The film has some pretty in-

credible shots of nature scenes, at times giving the impression of a well-done nature documentary. This is refreshing in a world focused on the next computer-generated fight. Another positive was the poignant and relaxing soundtrack. The movie presents a journey which is, in a word, epic, which leaves the viewer full of wonder and awe. Despite all the things that *Into the Wild* does right, there are a few things the movie's makers could have improved upon. Although the movie is broken into a number of vignettes, it starts to drag by the two-hour mark. It then continues for another half-hour. The movie also seems too much like every other survivor story. Even though this story was based on a real person, it was by no means a unique journey.

Into the Wild was an enjoyable film, but some aspects could have been improved on to make it even better.



Cooking corner

Tasty tofu stir-fry

Sara Post
Editor-in-Chief

If you've never tried tofu, this is a great way to get started. Prepared this way, tofu is a lot like chewy scrambled egg, and will absorb any flavors you cook it with (if you have time, I would definitely recommend marinating your tofu in a mixture of 1 tbsp of olive oil, 2 tsp of red wine vinegar, and a pinch of thyme).

Serves: 1
Time: 30 minutes

Basics
~ 3 oz firm or extra firm tofu (I like Denver tofu the best)
2 small tomatoes
olive oil
1/2 cup dry pasta

Optional add-ins
~ 1 cup washed and chopped spinach
~ 1 cup corn kernels
1/4 of an onion
grated parmesan cheese
grated cheddar cheese
thyme
basil
crushed red pepper flakes
garlic powder
salt and pepper

Bring a pot of salted water to boil, add the pasta. While the water is heating, cut the tofu and tomatoes into bite-sized pieces.

Once the pasta is in, saute the tofu on medium-high heat in a non-stick pan until it's lightly browned. Add the onions, if using, and continue to cook until the onion is soft.

When the pasta is done, add

the tomatoes, spinach and corn (if using), pasta, and any of the spices you would like to use. Saute briefly, just until the spinach is wilted or the tomatoes are warm (if you're not using spinach), then place in your serving dish of choice.

Add parmesan or cheddar (or both, if you like) and enjoy!

You could also put an Asian twist on this dish by using soy sauce and your choice of stir-fry vegetables and serving it over rice or any Asian noodle. You could also add some Thai red curry paste, if you have that around.

Another option, for time-saving purposes, could be sauteing the tofu and onion, adding ~ 1/2 cup of your tomato sauce of choice, and serving over spaghetti noodles.

Store leftover tofu in the fridge.

Chocolate chip chocolate cake

Neelha Mudigonda
Content Manager

Like the alliteration of the name? You'll like the cake even more. However, I suggest that you don't try the recipe unless you're in extreme need to quench the thirst for chocolate. This recipe is great as an after-dinner dessert or as a birthday cake. My roommate can tell you all about that.

Ingredients:
1 (18.25 oz) package chocolate cake mix
1 (3.9 oz) package instant chocolate pudding mix
1 cup vegetable oil
4 eggs
1/2 cup hot water
1 cup sour cream
1 teaspoon vanilla extract

[optional]
1 cup mini semi-sweet chocolate chips
1 cup whipped chocolate frosting

Directions:
1. Add the chocolate cake mix, vegetable oil, chocolate pudding mix, sour cream, vanilla extract, and the hot water respectively in a bowl
2. Mix the ingredients thoroughly until the batter is uniform in color.
3. Add most of the chocolate chips to the cake batter and mix well.
4. Grease a baking pan (a 9" x 13" one), and pour the batter into the pan.
5. Top the batter in the baking

pan with the rest of the chocolate chips.

6. Preheat the oven to 350F and cook the batter in the oven for 45 to 50 minutes or until completely cooked. If you live in Mines Park, cook the batter only for 40 to 43 minutes; apparently your



350 actually means 400F.

7. After the cake cools, spread the chocolate frosting on the cake and share with your friends!

This might seem like an ordinary cake recipe, but it will be best cake you've ever had in your life... relatively speaking, of course.

Invention of Lying is irreverent and clever

Zachary Sorenson
Staff Writer

The Invention of Lying, a delightful romp written by Matthew Robinson and Ricky Gervais, opened this past weekend. Gervais, who also stars in the film, along with big names such as Jennifer Garner, Jonah Hill, and Rob Lowe, plays Mark Bellison, a man who is alone, unemployed, and behind on his rent. While this may seem like a standard set-up for a movie, it comes with one twist: the actors live in a world in which no one can lie. No one, that is, except for Bellison. Bellison discovers this ability early on in the film, and uses it to pursue everything from love interests to explaining life to man kind.

The movie provided an interesting take on what the world would be like if people were completely honest with each

other. Jokes ranged from people blurting out what they truly felt, to how commercials and movies would really be like if people were incapable of lying. The movie also focuses on a love story between Mark and Anna (Jennifer Garner). This relationship at times seems completely foreign, since one character can lie while the other can only tell the truth. However, it manages, in the end, to stay somewhat familiar.

There were some issues with the film. The jokes became stale very soon after the premise was established. After the twentieth time someone blurts out an inappropriate comment, the viewer is left with the feeling of, "I get it already, no one can lie." Another aspect of the movie may cause offense

to some viewers. About halfway through the movie the main character Mark takes on a Christ-like role. This culminates to the point that the main character confesses there is no higher power. Even though this was done in a light-hearted way, it may have been a poor decision to accuse one of the major religions of America to be based on lies.

With witty jokes and interesting situations, *The Invention of Lying* provides a fun way to spend two hours.

Even those who don't find Ricky Gervais to be particularly funny, the movie will leave the viewer with something to discuss. Those who are easily offended by crude humor or poking fun at religion, however, should avoid the movie.



CSM swim and dive team kicks off season

Ben Johnson
Staff Writer

After a season that saw a change in head coach as well as a change in training philosophy, the CSM swimming and diving team is anticipating a breakout year. Head coach Kevin Sage took over the reins of the team last year and led the team to a decent season. One year later, many of the returning athletes now understand the training regime and are more comfortable with the expectations that are placed on them which, according to Sage, will boost the overall team performance and will allow individual athletes to perform at their peak.

Preseason honors were handed to Jesse Dennis, who was named the Rocky Mountain Athletic Conference (RMAC) Men's Pre-season Diver of the Year, and to Kevin Shaw, who was named to the RMAC Preseason Men's Swimming and Diving All Conference Team. Both of these talented athletes are expected to make the

national tournament along with a prediction from Sage of one more diver and three more swimmers. Sage also had his first recruiting class that he described as, "A very strong freshman class. They are so strong that many of the returning swimmers have given them very high praise." One of the highlights of the freshman recruiting class was Sarah Moore, who has only been diving for the past couple of years, but Sage said that, "Sarah should qualify for nationals all four years barring injury." Next year's recruitment also promises to be strong but with a smaller number of athletes because of the quality and size of the existing team.

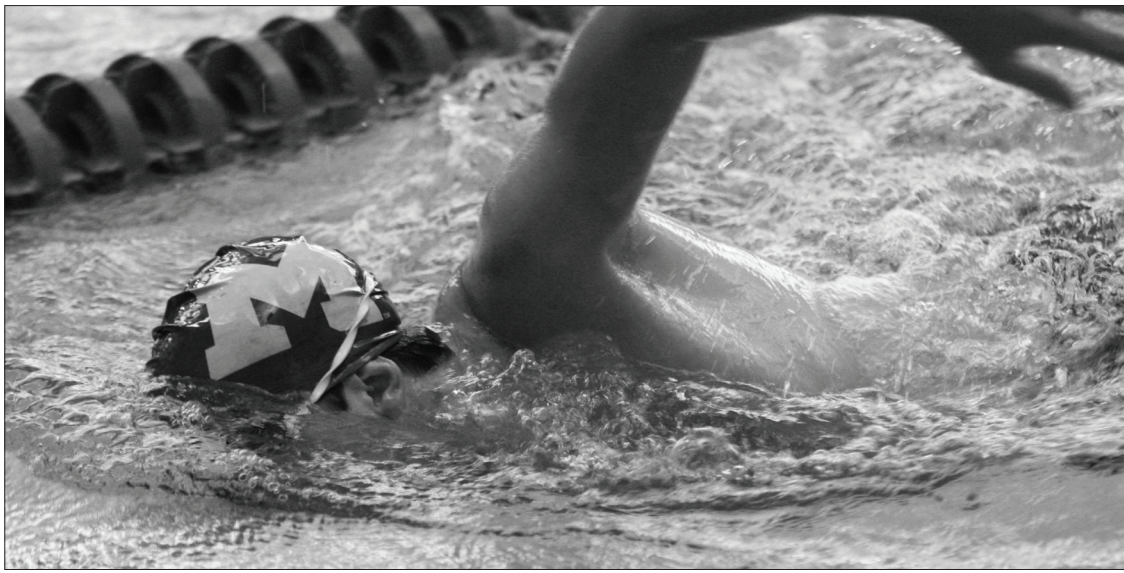
On Friday, October 2nd, CSM hosted an intrasquad exhibition event. The event's primary purpose "is a barometer for both the players and the coaches to check and see what the athlete's actual times are," said Sage. Sage later described the event as "more of affirmation for the coaches to see how they react to competition... and to provide freshman with a chance to know

what to expect during the season." On Friday, October 9th, and Saturday, October 10th, Mines is hosting the first home meet of the year bringing in Mesa State, Adams State, CU Club, and Metro State Club. Colorado State University, an annual powerhouse in the pool, will be at Mines on October 16th and 17th during the Swimming

and Diving Rocky Mountain Invitational. Sage said that, "It should be a monstrous meet. I am expecting several new pool records."

High expectations have been set by the coaching staff and the athletes this year. The team is tougher and deeper in its second year under Kevin Sage who listed the lack of transition and familiar-

ity with the training regimen and coaches as additional reasons why this year's team should be so much better than last year's. With such a talented freshman class and a deep existing team that features two highly successful athletes that did not compete last year, look for the CSM Swimming and Diving team to meet their expectations.



STEVEN WOOLDRIDGE / OREDIGGER

ORC hosts bouldering competition

Jared Walters
Staff Writer

The CSM bouldering competition is "the biggest thing to happen on the wall all year," claims Rob Thompson, director of the ORC. It is held biannually, in the spring and fall of each year. Thompson said, "There's a really high density of pro climbers in the area." As a result, only Mines students and faculty are allowed to participate, with a maximum of 45 competitors. Prizes for athletes who rank high include things like backpacks, headlamps, helmets, and climbing magazine subscriptions. However, there are still prizes for everyone, "We usually have more prizes than people competing," said Thompson.

In preparation for the competition, the climbing wall is closed for a week and all of the holds below 15 feet are stripped off. The ORC then finds local professional climbers and route setters to come in and work with the staff to set up 30 problems of varying difficulty. Bouldering problems are made by "condensing a route into a smaller section" says Thompson. Generally only 12-15 feet high bouldering problems are climbed without a rope or harness. Three levels of difficulty exist in the competition - recreation, intermediate, and advanced.

The problems are rated from 1-10 by difficulty, 10 being the hardest. Thompson confirmed that, "8 out of the 30 problems this semester were set by professional route setters."

Competitors are given three hours to complete as many problems as they can. Climbers must start on the holds marked by colored tape in a V shape and follow holds marked with the same color tape to the top of the problem. They must hold and sustain themselves on the last hold which is also marked by tape in the V shape. Points are awarded depending on how difficult the problem is.

Concerning his personal love for bouldering, Thompson stated that, "It's very social. You will have 30 or 40 people below you just hanging out and helping you figure out where to step or hold. You can just climb a problem and then come down and talk and hang out. It's super social and lots of fun." Comparing bouldering to regular climbing, he said, "In regular climbing it's usually just you and the person on belay. In bouldering there's a bunch of people just hanging around and talking to you." He added that the competition is "a great chance for climbers to get together and have fun, and there's a great community in the area."



BARBARA ANDERSON / OREDIGGER

Mines women's soccer defeats UCCS, Adams State

Courtesy CSM Athletics

The Colorado School of Mines women's soccer team posted a 4-0 win over UC-Colorado Springs on Friday afternoon at the CSM Soccer Stadium to extend its winning streak to four games.

Kayla Mitchell gave Mines a 2-0 lead scoring back-to-back goals just one minute and 51 seconds apart. After a through-ball found the feet of Mitchell both the UCCS goalkeeper and a defender converged on the ball. Mitchell came up with the ball to score her 11th goal of the season. In the 24th minute after being taken down just outside the box Mitchell drilled a free kick just under the crossbar.

CSM added one more goal in the first half in the 39th min-

ute. Angelica Schira was able to control a ball near the edge of the box on the right side. Schira made a short pass to Allie Stange who drove a shot from 18 yards out to score her first collegiate goal.

Mitchell completed the hat trick in the 53rd minute of the match. Megan Woodworth chipped a ball to Mitchell who was just outside the six-yard box and she headed it in for her fifth career hat trick and 13th goal of the season. Mitchell now has six goals in just three games against UC-Colorado Springs.

Briana Schulze and Penny Rogers combined for the shutout as each collected three saves. CSM's defense limited UCCS to seven shots in the match.

The Orediggers also defeated Adams State in a 6-0 victory on Sunday, October 4th.



The women's soccer team continued their dominance Friday afternoon by defeating UCCS 4-0. This came after another shut-out against Mesa State (3-0) two weeks ago.



ALL PHOTOS STEVEN WOOLDRIDGE / OREDIGGER

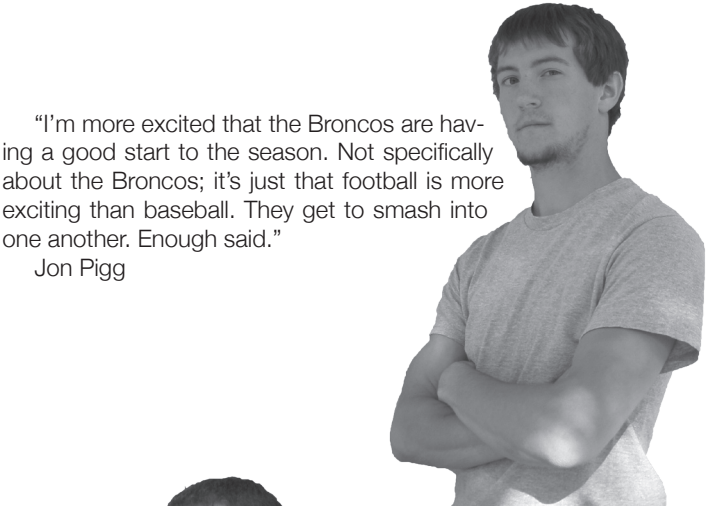


Minds at Mines

Sports Excitement

Roby Brost
Staff Writer

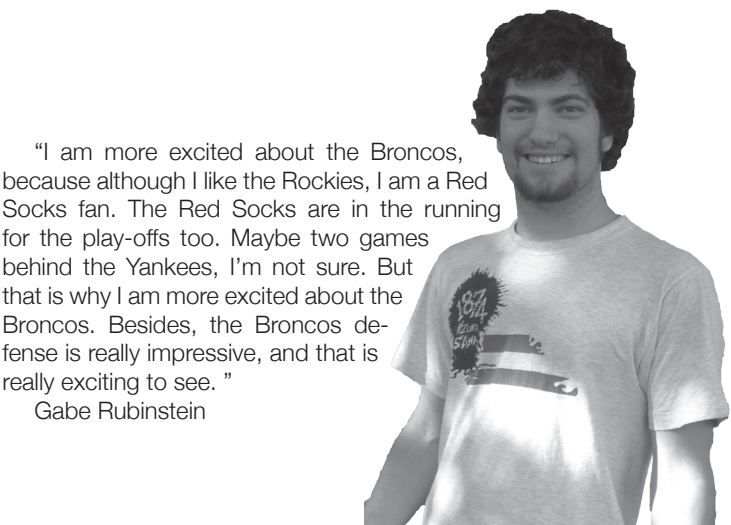
It must be the fresh Colorado air, or perhaps the mountains are particularly inspiring at this time of the year. Maybe the leaves turning to red and gold flip some chemical switch in the brain that tells athletes to turn on the extra excellence. Whatever the reason, many of the professional state teams in sports are making amazing plays and having great seasons. Here on campus, that excellence has not gone unnoticed. With the Rockies in the running for the play-offs and the Broncos 3-0, it appears that “Rocktober” will be a great month for sports. The only question is: which team’s successes have the students on the Mines campus more excited?



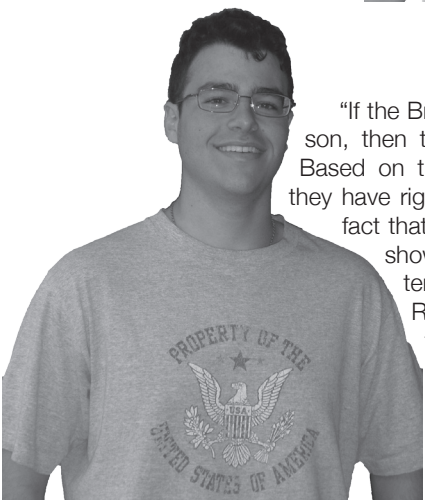
“I’m more excited that the Broncos are having a good start to the season. Not specifically about the Broncos; it’s just that football is more exciting than baseball. They get to smash into one another. Enough said.”
Jon Pigg



“I am definitely more excited for the Broncos. I’ve played football for seven years. The Broncos weren’t supposed to be that good this year, so that is definitely a nice surprise. And the Rockies have kind of already turned it around, so it was kind of expected to happen.”
Alex Krabb



“I am more excited about the Broncos, because although I like the Rockies, I am a Red Socks fan. The Red Socks are in the running for the play-offs too. Maybe two games behind the Yankees, I’m not sure. But that is why I am more excited about the Broncos. Besides, the Broncos defense is really impressive, and that is really exciting to see.”
Gabe Rubinstein



“If the Broncos go like, 500 for the season, then that would be good for them. Based on the team and the players that they have right now for this season. So the fact that they are starting off 3-0 is just showing how lucky they have gotten. I don’t know, I feel like the Rockies are actually a decent team this year, and playing very well whereas the Broncos have gotten some good breaks. In any case, I am more excited about the Rockies.”
Barry Rabinovich

PHOTOS ROBY BROST / OREDIGGER

Spending for social change?

Anthony Perez
Staff Writer

When the “socialist” government proposed supporting banks with their bad budget sheet by giving them cash, there was more political fear rather than partisan backlash. When the automakers found they weren’t making a profit (which should be no surprise; they haven’t been making money in years), the Republicans were only mildly upset at the idea of giving the billions to help turn around American production. As these poorly running sectors return to “business as usual” and America tries to tackle a real problem - health care - Republicans freak out!

Why the sudden change? Paying billions was fine when Bush and Obama were bailing out companies and banks - why should healthcare be any different? The reason here is not as simple as the age old Jeffersonian - Hamiltonian debate long known by Americans. It’s not about big government - it’s about who is receiving the kickbacks from the big government. If healthcare is fundamentally changed to a single payer or a government run insurance system, many people

will be hurt. The people who will take the biggest hit are those who currently have nice healthcare and will see an increase in tax to cover the cost of those without.

The issue isn’t whether we can spend that much - we’ve got the whole deficit spending thing down. The issue is whether we want to spend trillions to make healthcare available to everyone - rather than only those with the ability to pay.

The non-uniformity in Republican backlash shows that Republicans are willing to put up with giant spending on foreign wars (even wars obviously lacking credibility), a stable banking system, and American automotive production, yet when it comes to pay the cost of creating a society committed to progressive fairness and caring for those without the ability to pay, Republicans finally oppose spending.

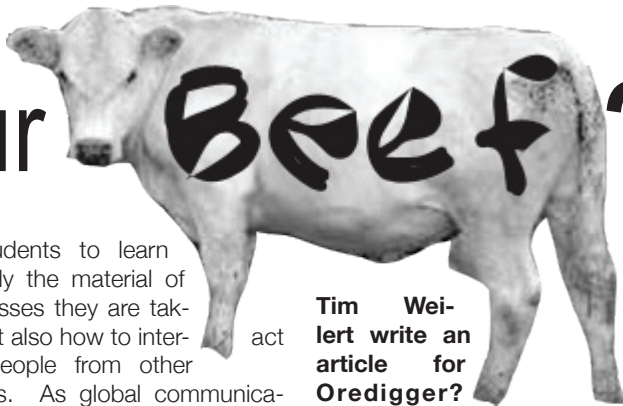
I consider myself conservative. I’ve opposed bank bailouts, foreign wars, and buying the American auto industries. I think bankruptcy would have done more to help the auto industry get on the right track. And as bankers get back to business as usual, it’s obvious when people don’t pay the cost of their

mistakes, they’re likely to make them again. Yet when it comes time to fundamentally change the system of healthcare, a no-spending and anti-change approach leaves us with the same dysfunctional system. Even those who had health care weren’t protected in the old system. A recent study found that 62 percent of all bankruptcies filed in 2007 were linked to medical expenses. Of those who filed for bankruptcy, nearly 80 percent had health insurance. According to another published article, about 1.5 million families lose their homes to foreclosure every year due to unaffordable medical costs.

So, Republicans can deal with bailing out banks and car companies, but when it comes to changing a system that is broken, no thanks. We’ll take the status quo, overly aggressive banks, inefficient American companies, and poor health care.

Sources: Himmelstein, D, E., et al, “Medical Bankruptcy in the United States, 2007: Results of a National Study, American Journal of Medicine, May 2009. Robertson, C.T., et al. “Get Sick, Get Out: The Medical Causes of Home Mortgage Foreclosures,” Health Matrix, 2008.

What’s your Beef?



Jaime Thorpe
Student Body President

Where does the money from parking permits and parking tickets go?
The income collected from parking permits and parking fines is currently being directed to a fund to finance the building of a new parking structure on campus.

Why do we have professors and T.A.s that can’t speak English proficiently? I can’t learn when I don’t understand what they are saying.
Mines tries to have a diverse population of teaching faculty in order

for students to learn not only the material of the classes they are taking, but also how to interact with people from other cultures. As global communications are ever increasing, there is a diverse network of people you will have to interact with throughout your career, whether you choose to pursue a career in industry or in academia. It will be a great advantage to those of us who are able to understand people who have accents, as we will be able to avoid the social taboo of repeatedly asking them to repeat themselves.

Can someone other than

Tim Weilert write an article for the Oredigger?
The Oredigger is happy to employ any student who wishes to write for them. When asked, Lily Giddings, Managing Editor, replied: “Our content managers tend to write the biggest articles, and therefore get placed more often. However, since it is called *The Oredigger* and not *The Tim Weilert Gazette*, clearly other people do write for us.” Thank you, Lily.

Tim’s two cents



On health

Tim Weilert
Content Manager

Healthcare is one of those hot topics right now. I’m fairly certain if I hear the number 47,000,000 again, my head will explode. Everywhere I look, people are arguing the merits of proposed health care reform. This got me thinking about recent health-related shenanigans going down at the Colorado School of Mines.

This year, unlike past years, there is a website that you can go to if you get the “swine flu” (or H1N1 virus, if you want to be politically correct). What does this site do? It magically alerts your professors to your new-found sickness and they will work with you to help you keep up with the Mines workload while you rest.

I have no beef (or tofu, if you want to be politically correct), with this system. In fact, I want to know, “Why didn’t someone think of this earlier!?”

College campuses have long been hotbeds for communicable diseases. Close quarters, lecture halls, long nights, and poor diets all contribute to this fact. So then why does it take something like media fear-mongering for schools to implement systems like the one at inside.mines.edu/flu?

I have personally not taken “swine flu” too seriously. All of this has happened before, we saw SARS and “bird flu” come and go, taking no more victims than what is normally seen during flu season. Why didn’t we see a system then?

Perhaps “swine flu” will also go

the way of “bird flu,” but one final question remains, will this system of self-reporting and faculty response still be available? I am under the opinion that such a program should be continued even after everything blows over. If anything, it will build a better, more healthy community where we don’t infect each other and professors help those enfeebled by sickness.

Editorials Policy

The Oredigger is a designated public forum. Editors have the authority to make all content decisions without censorship or advance approval and may edit submitted pieces for length so long as the original meaning of the piece is unchanged. Opinions contained within the Opinion Section do not necessarily reflect those of Colorado School of Mines or The Oredigger. The Oredigger does not accept submissions without identification and will consider all requests for anonymity in publication on a case-by-case basis. Submissions less than 300 words will receive preference.

Fool's Gold

"AAAAHHH! I overslept!"



Lesser-known drinking games

Mike Stone

Party researcher

- 10) Drink your Beer!
- 9) Don't Drink your Beer!
- 8) Put your pants on your head. Last one drinks!
- 7) Swallow these dice. In a day or two, 7 or 11 wins.
- 6) The Inverted Pneumatic Beerbong
- 5) If your name is Clayton, drink until... well, just drink.
- 4) Watch any news channel and drink anytime someone says, "health", "Obama", or "economy".
- 3) Drink 'Till you can't feel feelings!
- 2) Drink this Crap We Just Mixed Together
- 1) Drive then Drink! (Not Drink then Drive)

Leave my sport alone!

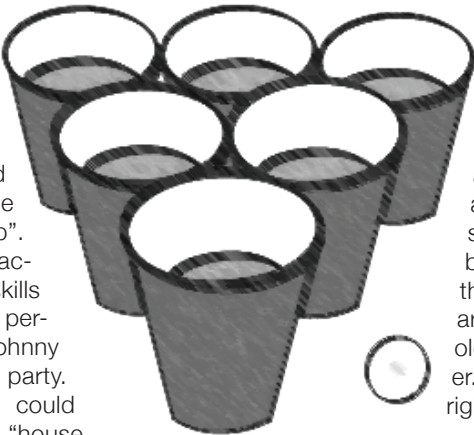
Mike Stone

Senior Beerpongologist

Whatever happened to the simple sport I once knew and loved? You throw the ball. You make the cup. They drink. If one team is more accurate and consistent than the other, they win. Simple enough, right? That's what is intended but, this is not the case in college parties today. Rules, rules, and more rules. These rules are ridiculous! I've heard many rules in my day and decided to classify them as follows:

- 1) Standard. These are rules everyone plays everywhere. They are the rules that have been with the game since its creation on March 4th, 1953 and like the Bill of Rights, should never be changed or added to...wait...
- 2) Regional. These are acceptable rules but, some people prefer them and others don't.
- 3) Absurd. These rules have no right being in the game as they go against the fundamental rule of "either you make the cup or you don't." One can't help but look at these "creations" and think how there once was a boy named Johnny.

Johnny wasn't very good at beer pong. He lost at all the parties. Johnny could only make the "rookie cup". Instead of practicing his skills with guided persistence, Johnny held his own party. This way he could make up "house



rules" to help him win. Try as he might, Johnny couldn't win by his own rules so, he kept making up more and more rules to give him the advantage. Rules like "if the ball roles back on the table to me, I get to shoot again! But, only if I throw it behind my back," and "Holy cow, I made three in a row! Let's give myself another advantage even though all I've done is the goal of the game and say I get to shoot again! Never mind that pesky 'both teammates must make it to shoot again' rule! I'm Johnny!" Johnny died alone at 21 years and 1 month old.

As sad as the Johnny story is, it is true. Look it up - I dare you. I've talked to gentlemen and ladies in their 30's and 40's and they've reminded me of the good 'ol days; days when people would come together for the common purpose of socializing while drinking. It's the American way. If there was nothing to do, they would put a few cups on the table and throw a ball at them. If you made the cup, you made the cup. That's it. No other extraneous rules. No other loopholes to try and weasel your way to "getting" more cups. Just beer pong. And in those days, when someone owed a naked

lap, by God, they did a naked lap. Long live sport. [Drinking alcohol of any kind should only be done by those who are 21 years old and older.... Yeah right!]

EPICS addresses lack of social skills

Janeen Neri

Yellow Stocking Connoisseur

This semester, a new option was added to the ranks of specialized EPICS II classes – EPICS 221: Charm & Chivalry. "We've been working hard over the past few semesters to offer more specialized EPICS II classes," said EPICS head Rob Kenneth, "so that everyone has a class that appeals to their interests. This particular one came as the result of polling the student body; overwhelmingly, they want a class that teaches them 'how to get girls'."

The class itself is technically co-ed, though it is difficult to tell by looking at the students. This semester's roster is composed almost entirely of males. The lone woman in the class, Olivia Rogers, admits that since she is "a pure chemistry major, this is the most relevant EP-

ICS class I could find. Besides, it's at least amusing."

A typical week in EPICS 221 has a lesson on Monday, a lab on Wednesday, and no class on Friday. "We leave the Fridays open" instructor Maria Spear explained, "so our students can apply what they've learned in class and in lab." The grading for the class is extremely relaxed, with most of the points coming from attendance and weekly self-evaluations. "I do plan to have a final project," said Spear, "but students will be responsible for setting their own goals and determining their grade accordingly."

EPICS 221 was originally supposed to be a broader class on manners, but as soon as Spear saw the gender disparity, "I realized that I could probably tweak the curriculum a bit." Now, the class serves as a low-stress environment to practice, as its informal title states, charm

and chivalry. "I hasten to add," said Spear, "that this is not the stilted chivalry of yore. I want my students to have a proper concept of what modern chivalry looks like... For example, on the first day of class I reminded them that ladies, now-a-days, dislike having doors held open for them, chairs pulled out and the like. They think that you are calling them weak."

But what do the students think of modern manners? "I like it a lot," said junior James Malvolio, "I mean, a lot of the stuff we learn is about how we're already doing more work than we need to. Like last week, I learned that I shouldn't try and 'work up the courage' to tell a girl that I like her, especially if I don't think she likes me back – girls like to be kept guessing, and besides, she can't turn you down if you don't say anything. I thought that was a really neat insight."

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— solution —

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4	7	5	2	8	9	6	1	3
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CSM alum stresses the need for knowledge

Zachary Sorenson
Staff Writer

"Our specialty is to create knowledge [by] finding, managing, and sharing information," Dr. Frank D'Agnese explained. D'Agnese, who gave this week's Van Tuyl lecture, is a CSM alum who received his B.S., M.S., and Ph.D. from Mines. Speaking on the topic of "Internet-based Visualization and Collaborative Approaches for Earth Science Decision-Making," D'Agnese gave an explanation of his web-based company, Earth Knowledge: Information for Sound Decisions.

D'Agnese discussed specific problems that his company has solved. Each of these problems was based in the west, focusing

on states like Nevada and Utah. One particularly interesting problem involved a need for water in Las Vegas. The group that hired Earth Knowledge needed to not only get water from a nearby aquifer, but also needed information on how it would affect the area. Earth Knowledge gathered information from sources like the United States Geological Survey and NASA. It then developed models that would show the general flow

of water based on the geological and hydro-geological information. One such model was a 3D model that showed the general size

of the aquifer from which water needed to be drawn.

After discussing some projects his company has worked on, he went on to discuss the website that his company runs. D'Agnese described the main goal of his company's website; "[We want to] take traditional products and

make them into interactive ones."

The web site has both public and private portions based on payment options. The public section is absolutely free, and provides an interactive map widget on the home page. This map it is powered by Google, but does much more than Google

maps. By selecting a category of interest, such as biological diversity, water, climate, and land, the map will displays the location of up-to-date stories pertaining to your subject of interest. By clicking on the location, the website will display a short description of the article and a link to the full article.

The premium version of the website, which is a pay-for site, comes with many more options. Earth Knowledge is available to develop models for problems, ranging from simple to complex 3D models. The company can then access the information through the web site privately through passwords and other methods. The cost of the project depends on several items, in-

cluding complexity of models and how big of a platform the client wants.

D'Agnese continued his lecture by discussing the future of his company. Right now he is focusing on bringing the tools of Earth Knowledge into the classroom. He has had several for-profit schools express interest in using the tools of his web site for an educational purpose. D'Agnese is also looking towards expanding his staff base which, between interns, part-time, and full-time staff, is only fifteen people. His company has an optimistic viewpoint towards its future. As D'Agnese put it, "We feel that there is a very important place for this work, and a very bright future for this work."

**"Our specialty is to
create knowledge [by]
finding, managing, and
sharing information"**



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